



AVAT12007 General Aeronautical Knowledge (Commercial Pilot Licence) Term 1 - 2022

Profile information current as at 01/07/2022 02:10 pm

All details in this unit profile for AVAT12007 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

General Aeronautical Knowledge (Commercial Pilot Licence) will provide you with knowledge of small commercial aircraft power plants and systems. You will cover the aeronautical knowledge requirements of the Civil Aviation Safety Authority's Commercial Pilot Licence General Aeronautical Knowledge syllabus. Topics you will study in depth include piston engine power plants and propellers. You will learn about aircraft electrical and hydraulic systems, fuel systems, and ice and rain protection systems. You will also become familiar with flight and navigation instruments.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: AVAT11002 Basic Aeronautical Knowledge; AVAT11003 Basic Aeronautical Practice; AVAT11005 Aviation Physics and AVAT 11007-Flight Planning Performance and Operation-Private Pilot License (PPL).

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2022

- Brisbane
- Bundaberg
- Cairns
- Online
- Perth

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 20%

2. **Online Quiz(zes)**

Weighting: 20%

3. **Examination**

Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Student Unit Evaluation Data

Feedback

A student requested more weekly quizzes similar to BAK and BAP be instigated as part of the assessment of the course.

Recommendation

Introduce weekly quizzes.

Feedback from Student Unit Evaluation Data

Feedback

Revise the written assignment. This terms assignment is too general.

Recommendation

Increase the specificity of the written assignment task.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Explain the operation and construction of aircraft piston engine power plants
2. Describe the operation and performance characteristics of fixed and variable pitch propellers
3. Describe the function of a typical small aircraft's mechanical system
4. Explain the operation and function of a light aircraft undercarriage system
5. Convert between various airspeeds such as Indicated Airspeed, Rectified Airspeed, Calibrated Airspeed, Equivalent Airspeed, and True Airspeed
6. Explain the operation of the aircraft pressure and gyro flight instruments
7. Discuss the basic operating principles of aeronautical radio systems.

N/A. No external accreditation.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes							
	1	2	3		4	5	6	7
1 - Communication	•	•	•	•	•	•	•	
2 - Problem Solving	•	•	•	•	•	•	•	
3 - Critical Thinking	•	•	•	•	•	•	•	
4 - Information Literacy			•	•		•	•	
5 - Team Work								
6 - Information Technology Competence								
7 - Cross Cultural Competence								
8 - Ethical practice								
9 - Social Innovation								
10 - Aboriginal and Torres Strait Islander Cultures								

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 20%	•		•	•				•		
2 - Online Quiz(zes) - 20%	•	•	•					•		
3 - Examination - 60%	•	•	•					•		

Textbooks and Resources

Textbooks

AVAT12007

Prescribed

Aircraft General Knowledge

Aviation Theory Centre

Brisbane , Queensland , Australia

ISBN: 978-1-875537-14-3

Binding: Paperback

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Recommended book: Aircraft General Knowledge for the CASA PPL/CPL Day VFR Syllabus.

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Harold Bankien Unit Coordinator

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Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Powerplant and systems 1.	Aircraft General Knowledge: Chapter 2.	

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Powerplant and systems 2.	Aircraft General Knowledge: Chapter 2.	

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Propellers	Aircraft General Knowledge: Chapter 7	

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lubrication system	Aircraft General Knowledge:	

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Electrical System, fire protection and climate control.	Aircraft General Knowledge: Chapters 3, 9, 11 and 12.	

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
No lectures.		

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Hydraulic Systems.	Aircraft General Knowledge: Chapter 10.	

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Propellers.	Aircraft General Knowledge: Chapter 7.	

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Flight Instruments.	Aircraft General Knowledge: Chapters 13, 14 and 15.	

Week 9 - 09 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Automatic Flight.	Aircraft General Knowledge: Chapter 16.	

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Aeronautical radio telephony.		Written Assessment Due: Week 10 Friday (20 May 2022) 12:00 pm AEST

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Radio waves.		

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Review.	Aircraft General Knowledge: Chapters 2 to 16.	

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
Review / final exam.		

Exam Week - 13 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
Final exam.		

Assessment Tasks

1 Written Assessment

Assessment Type
Written Assessment

Task Description

Aim of the assignment

To broaden your understanding of knowledge presented in the unit.

Assignment Description

Perform a comparative study of the Cessna 172 and PA 28 airplanes and make recommendations of the suitability of each aircraft for different types of operations.

Submit a report that contains:

- A brief summary/overview/history of the aircraft;
- A discussion (comparative study). Include design, systems, performance, weight and balance, capacity, range, endurance, etc.;
- Conclusion and recommendations.

Since there is an element of Team Work in this assignment, you may work within a team to discuss your methodology. However, each student is required to submit a unique paper, which is subject to the standard plagiarism policies.

Resources

As required.

Format

The paper should be written in a report format with a title page, executive summary, introduction, main body and conclusion / recommendations.

Referencing required is Harvard style.

Include number the pages, word count and a table of contents.

Use Calibri (Body) 11 font.

Assessment

Refer to the Rubric marking matrix on Moodle.

Assessment Due Date

Week 10 Friday (20 May 2022) 12:00 pm AEST

Return Date to Students

Week 12 Friday (3 June 2022)

Weighting

20%

Assessment Criteria

Refer to Rubric on Moodle.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Describe the function of a typical small aircraft's mechanical system
- Explain the operation and function of a light aircraft undercarriage system
- Explain the operation of the aircraft pressure and gyro flight instruments
- Discuss the basic operating principles of aeronautical radio systems.

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Ethical practice

2 Online Quizzes

Assessment Type

Online Quiz(zes)

Task Description

Complete the online quizzes.

Details of the online quizzes (such as syllabus, format and schedules of quiz and returns), will be available in Moodle in week 1.

Number of Quizzes

Frequency of Quizzes

Other

Assessment Due Date

Details of the due dates of online quizzes will be available in Moodle in week 1.

Return Date to Students

Details of the feedback on online quizzes, will be available in Moodle in week 1.

Weighting

20%

Assessment Criteria

Refer to Rubric on Moodle.

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Explain the operation and construction of aircraft piston engine power plants
- Describe the operation and performance characteristics of fixed and variable pitch propellers
- Explain the operation and function of a light aircraft undercarriage system
- Convert between various airspeeds such as Indicated Airspeed, Rectified Airspeed, Calibrated Airspeed, Equivalent Airspeed, and True Airspeed
- Discuss the basic operating principles of aeronautical radio systems.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Ethical practice

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

120 minutes

Minimum mark or grade

50%

Exam Conditions

Closed Book.

Materials

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem